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            RAW SEQUENCE LISTING           DATE: 10/10/2001
            PATENT APPLICATION:  US/09/963,285    TIME: 14:02:24

            Input Set : A:\ES.txt
            Output Set: N:\CRF3\10102001\I963285.raw
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ENTERED

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      4 <110> APPLICANT: Enerbck, Sven
      5         Krook, Katarina
      6         Rondahl, Lena
      7         Wasserman, Wyeth
      9 <120> TITLE OF INVENTION: PROMOTER SEQUENCES
     11 <130> FILE REFERENCE: 13425-042001
C--> 13 <140> CURRENT APPLICATION NUMBER: US/09/963,285
C--> 13 <141> CURRENT FILING DATE: 2001-09-26
     13 <150> PRIOR APPLICATION NUMBER: SE 0004102-0
     14 <151> PRIOR FILING DATE: 2000-11-09
     16 <150> PRIOR APPLICATION NUMBER: US 60/238,897
     17 <151> PRIOR FILING DATE: 2000-10-10
     19 <150> PRIOR APPLICATION NUMBER: SE 0003435-5
     20 <151> PRIOR FILING DATE: 2000-09-26
     22 <160> NUMBER OF SEQ ID NOS: 24
     24 <170> SOFTWARE: FastSEQ for Windows Version 4.0
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     27 <211> LENGTH: 6458
     28 <212> TYPE: DNA
     29 <213> ORGANISM: Homo sapiens
     31 <220> FEATURE:
     32 <221> NAME/KEY: CDS
     33 <222> LOCATION: (2235)...(3737)
     35 <400> SEQUENCE: 1
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     38 ggccgaagcg aagaggcctg gtgggttgtc tcaacatcct tttgctgaga atcgaatacg   180
     39 cagccgatga acagccagga agggtgcaag gaaacctgaa atacaaatgt tctccctgaa   240
     40 gccctcttcc ctgcccaacc agaccagcaa cttccaaaat tctgcccgtg tttagccttg   300
     41 ttaaaggggt gtctcactcc ttcagggaaa gtgggaaaag gggatctgat tattgaggtg   360
     42 tggaaggaat aaataatcag tccacaaata aacaaactgt ccgggattcc tagagggaag   420
     43 gagaaatcct tgaaggagat ccaagtcgct ccaggtctgc ctgccgaata atatcatccc   480
     44 gaagggatct tgaaccgttt gcaatcaacc gctcacccag tcttcccacg gagcgcgctc   540
     45 cctaactcac cctacccacc caacaaaaca aaaaaaaggc tgaaatatag aaaagcaact   600
     46 tggaggctcc caggggacg ttgccaggag caggaggcag ggacagcgcc ctagggtcgg   660
     47 tgttagcggc cggcgccggc ctgggccacg ggaaacgtcc acgcttggtg cccgcggtgc   720
     48 gcggcgctca ttgcgcgcgc cttcgagcca agcccccgcg gaaaacaggc tcgggtttct   780
     49 cctcgcaggg cccaggaact cggctctgcc tggcccgggt gggtcgctgc attgtcccgg   840
     50 tcttctggga gtgcggggtc agcttgttag agggaatttc tacctgggaa aagggagacg   900
     51 agtttcgaag ctgaagttgg taggctgcga gtgtccacgc gggagacgaa aggggggaaat   960
     52 agcagagtca cttcaccctt ttccccaaac cccacaaaac tgctcgcagc gacgcggatg  1020
     53 atctaccgaa ttccccgcga attcggagga ttaagttgtc agtcagcacg ttgctacctt  1080
     54 cccctctatg cactccgctg cctggctcct cggcggggag cgagggaaac tcagtttgta  1140
     55 gggtttacct ctaaaacctc gataggttat ccttgacgac cccgagcctg gaaactccct  1200
     56 gttgatgatt aattatttga ttaaataagt ataacatcca ggagaggccc tgccattcca  1260
     57 atccagcgcg tttgcttttg aatccattac acctgggccc ccataattag gaaatctaat  1320
     58 tattcgcttc atcactcatt aataagaaaa atgtcccagg atcattgcta cttacaaggt  1380
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PATENT APPLICATION: US/09/963,285 TIME: 14:02:24

Input Set : A:\ES.txt
Output Set: N:\CRF3\10102001\I963285.raw

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 59 ctttgggaga gatattttac tctattaatc cattctattt tatatttcaa attgattttt  1440
 60 tttaacagag gaaagtggct atcttttttgt tttgggcatg tgggcccatt caccaaaatg  1500
 61 tgatcataaa ataaatttta ataagatata acttttttaaa aagtttttcaa gtgaagacgg  1560
 62 agtcgccgcg gaggccgggg cggcggggtc ttagagccga cggattcctg cgctcctcgc  1620
 63 cccgattggc gccggactcc tctcagctgc cgggtgattg gctcaaagtt ccgggagggg  1680
 64 gcgtggcccg aggaaagtaa aaactcgctt tcagcaagaa gacttttgaa acttttccca  1740
 65 atccctaaaa gggacttggc ctcttttttct gggctcagcg gggcagccgc tcggaccccg  1800
 66 gcgcgctgac cctcggggct gccgattcgc tgggggcttg gagagcctcc tgcgcccctc  1860
 67 ctcgcgcggg ccgagggtcc accttggtcc ccaggccgcg gcgtctccgc tgggtccgcg  1920
 68 gccgcccgcc tgcccgcgct gccgccgccg ggtcctggag ccagcgagga gcggggccgg  1980
 69 cgctgcgctt gcccggggcg cgccctccag gatgccgatc cgcccggtcc gctgaaagcg  2040
 70 cgcgcccctg ctcggcccga gcgacgacga ccgcgcaccc tcgccccgga ggctgccagg  2100
 71 agaccggggc cgcccctccc gctcccctcc tctcccccctc tggctctctc gcgctctctc  2160
 72 gctctcaggg ccccccctcgc tcccccggcc gcagtccgtg cgcgagggcg ccggcgagcc  2220
 73 gtctcggaag cagc atg cag gcg cgc tac tcc gtg tcc gac ccc aac gcc  2270
 74                 Met Gln Ala Arg Tyr Ser Val Ser Asp Pro Asn Ala
 75                  1                   5                  10
 77 ctg gga gtg gtg ccc tac ctg agc gag cag aat tac tac cgg gct gcg  2318
 78 Leu Gly Val Val Pro Tyr Leu Ser Glu Gln Asn Tyr Tyr Arg Ala Ala
 79         15                  20                  25
 81 ggc agc tac ggc ggc atg gcc agc ccc atg ggc gtc tat tcc ggc cac  2366
 82 Gly Ser Tyr Gly Gly Met Ala Ser Pro Met Gly Val Tyr Ser Gly His
 83     30                  35                  40
 85 ccg gag cag tac agc gcg ggg atg ggc cgc tcc tac gcg ccc tac cac  2414
 86 Pro Glu Gln Tyr Ser Ala Gly Met Gly Arg Ser Tyr Ala Pro Tyr His
 87 45                  50                  55                  60
 89 cac cac cag ccc gcg gcg cct aag gac ctg gtg aag ccg ccc tac agc  2462
 90 His His Gln Pro Ala Ala Pro Lys Asp Leu Val Lys Pro Pro Tyr Ser
 91                 65                  70                  75
 93 tac atc gcg ctc atc acc atg gcc atc cag aac gcg ccc gag aag aag  2510
 94 Tyr Ile Ala Leu Ile Thr Met Ala Ile Gln Asn Ala Pro Glu Lys Lys
 95         80                  85                  90
 97 atc acc ttg aac ggc atc tac cag ttc atc atg gac cgc ttc ccc ttc  2558
 98 Ile Thr Leu Asn Gly Ile Tyr Gln Phe Ile Met Asp Arg Phe Pro Phe
 99         95                  100                 105
101 tac cgg gag aac aag cag ggc tgg cag aac agc atc cgc cac aac ctc  2606
102 Tyr Arg Glu Asn Lys Gln Gly Trp Gln Asn Ser Ile Arg His Asn Leu
103     110                 115                 120
105 tcg ctc aac gag tgc ttc gtc aag gtg ccc cgc gac gac aag aag ccc  2654
106 Ser Leu Asn Glu Cys Phe Val Lys Val Pro Arg Asp Asp Lys Lys Pro
107 125                 130                 135                 140
109 ggc aag ggc agt tac tgg acc ctg gac ccg gac tcc tac aac atg ttc  2702
110 Gly Lys Gly Ser Tyr Trp Thr Leu Asp Pro Asp Ser Tyr Asn Met Phe
111                 145                 150                 155
113 gag aac ggc agc ttc ctg cgg cgc cgg cgg cgc ttc aaa aag aag gac  2750
114 Glu Asn Gly Ser Phe Leu Arg Arg Arg Arg Arg Phe Lys Lys Lys Asp
115                 160                 165                 170
117 gtg tcc aag gag aag gag gag cgg gcc cac ctc aag gag ccg ccc ccg  2798
118 Val Ser Lys Glu Lys Glu Glu Arg Ala His Leu Lys Glu Pro Pro Pro
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RAW SEQUENCE LISTING   DATE: 10/10/2001
PATENT APPLICATION: US/09/963,285   TIME: 14:02:24

Input Set : A:\ES.txt
Output Set: N:\CRF3\10102001\I963285.raw

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119         175                 180                 185
121 gcg gcg tcc aag ggc gcc ccg gcc acc ccc cac cta gcg gac gcc ccc     2846
122 Ala Ala Ser Lys Gly Ala Pro Ala Thr Pro His Leu Ala Asp Ala Pro
123     190                 195                 200
125 aag gag gcc gag aag aag gtg gtg atc aag agc gag gcg gcg tcc ccg     2894
126 Lys Glu Ala Glu Lys Lys Val Val Ile Lys Ser Glu Ala Ala Ser Pro
127 205                 210                 215                 220
129 gcg ctg ccg gtc atc acc aag gtg gag acg ctg agc ccc gag agc gcg     2942
130 Ala Leu Pro Val Ile Thr Lys Val Glu Thr Leu Ser Pro Glu Ser Ala
131                 225                 230                 235
133 ctg cag ggc agc ccg cgc agc gcg gcc tcc acg ccc gcc ggc tcc ccc     2990
134 Leu Gln Gly Ser Pro Arg Ser Ala Ala Ser Thr Pro Ala Gly Ser Pro
135                 240                 245                 250
137 gac ggt tcg ctg ccg gag cac cac gcc gcg gcg ccc aac ggg ctg cct     3038
138 Asp Gly Ser Leu Pro Glu His His Ala Ala Ala Pro Asn Gly Leu Pro
139         255                 260                 265
141 ggc ttc agc gtg gag aac atc atg acc ctg cga acg tcg ccg ccg ggc     3086
142 Gly Phe Ser Val Glu Asn Ile Met Thr Leu Arg Thr Ser Pro Pro Gly
143     270                 275                 280
145 gga gag ctg agc ccg ggg gcc gga cgc gcg ggc ctg gtg gtg ccg ccg     3134
146 Gly Glu Leu Ser Pro Gly Ala Gly Arg Ala Gly Leu Val Val Pro Pro
147 285                 290                 295                 300
149 ctg gcg ctg cca tac gcc gcc gcg ccg ccc gcc gcc tac ggc cag ccg     3182
150 Leu Ala Leu Pro Tyr Ala Ala Ala Pro Pro Ala Ala Tyr Gly Gln Pro
151                 305                 310                 315
153 tgc gct cag ggc ctg gag gcc ggg gcc gcc ggg ggc tac cag tgc agc     3230
154 Cys Ala Gln Gly Leu Glu Ala Gly Ala Ala Gly Gly Tyr Gln Cys Ser
155                 320                 325                 330
157 atg cga gcg atg agc ctg tac acc ggg gcc gag cgg ccg gcg cac atg     3278
158 Met Arg Ala Met Ser Leu Tyr Thr Gly Ala Glu Arg Pro Ala His Met
159         335                 340                 345
161 tgc gtc ccg ccc gcc ctg gac gag gcc ctc tcg gac cac ccg agc ggc     3326
162 Cys Val Pro Pro Ala Leu Asp Glu Ala Leu Ser Asp His Pro Ser Gly
163     350                 355                 360
165 ccc acg tcg ccc ctg agc gct ctc aac ctc gcc gcc ggc cag gag ggc     3374
166 Pro Thr Ser Pro Leu Ser Ala Leu Asn Leu Ala Ala Gly Gln Glu Gly
167 365                 370                 375                 380
169 gcg ctc gcc gcc acg ggc cac cac cac cag cac cac ggc cac cac cac     3422
170 Ala Leu Ala Ala Thr Gly His His His Gln His His Gly His His His
171                 385                 390                 395
173 ccg cag gcg ccg ccg ccc ccg ccg gct ccc cag ccc cag ccg acg ccg     3470
174 Pro Gln Ala Pro Pro Pro Pro Ala Pro Gln Pro Gln Pro Thr Pro
175                 400                 405                 410
177 cag ccc ggg gcc gcc gcg gcg cag gcg gcc tcc tgg tat ctc aac cac     3518
178 Gln Pro Gly Ala Ala Ala Ala Gln Ala Ala Ser Trp Tyr Leu Asn His
179                 415                 420                 425
181 agc ggg gac ctg aac cac ctc ccc ggc cac acg ttc gcg gcc cag cag     3566
182 Ser Gly Asp Leu Asn His Leu Pro Gly His Thr Phe Ala Ala Gln Gln
183     430                 435                 440
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PATENT APPLICATION: US/09/963,285   TIME: 14:02:24

Input Set : A:\ES.txt
Output Set: N:\CRF3\10102001\I963285.raw

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185 caa act ttc ccc aac gtg cgg gag atg ttc aac tcc cac cgg ctg ggg    3614
186 Gln Thr Phe Pro Asn Val Arg Glu Met Phe Asn Ser His Arg Leu Gly
187 445                 450                 455                 460
189 att gag aac tcg acc ctc ggg gag tcc cag gtg agt ggc aat gcc agc    3662
190 Ile Glu Asn Ser Thr Leu Gly Glu Ser Gln Val Ser Gly Asn Ala Ser
191             465                 470  ·              475
193 tgc cag ctg ccc tac aga tcc acg ccg cct ctc tat cgc cac gca gcc    3710
194 Cys Gln Leu Pro Tyr Arg Ser Thr Pro Pro Leu Tyr Arg His Ala Ala
195             480                 485                 490
197 ccc tac tcc tac gac tgc acg aaa tac tgacgtgtcc cgggacctcc          3757
198 Pro Tyr Ser Tyr Asp Cys Thr Lys Tyr
199         495                 500
201 cctccccggc ccgctccggc ttcgcttccc agccccgacc caaccagaca attaaggggc  3817
202 tgcagagacg caaaaaagaa acaaaacatg tccaccaacc ttttctcaga cccgggagca  3877
203 gagagcgggc acgctagccc ccagccgtct gtgaagagcg caggtaactt taattcgccg  3937
204 ccccgtttct gggatcccag gaaacccctc caaagggacg cagcccaaca aaatgagtat  3997
205 tggtcttaaa atcccccctcc cctaccagga cggctgtgct gtgctcgacc tgagctttca  4057
206 aaagttaagt tatggaccca aatcccatag cgagcccta gtgactttct gtaggggtcc   4117
207 ccataggtgt atgggggtct ctatagataa tatatgtgct gtgtgtaatt ttaaatttct  4177
208 ccaaccgtgc tgtacaaatg tgtggatttg taatcaggct attttgttgt tgttgttgtt  4237
209 gttcagagcc attaatataa tatttaaagt tgagttcact ggataagttt ttcatcttgc  4297
210 ccaaccattt ctaactgcca aattgaattc aagaaaccga tgtgggtttt gtttcctgta  4357
211 caattatgag atataattct ttttcccatt gtaggtcttt tacaaaacaa gaaaataatt  4417
212 tattttttg ttggtggata aagaagtcaa gtatctgata ctttttattt acaaagtgtg   4477
213 atggttttgt atagtaggtt ccaccctgag tattcctaaa agaaaaaaaa aaaaaaagct  4537
214 taaaaactct aacttcatct gtgtttgtct tacgtggtct taatcgttgt acttaccttta 4597
215 aaataaaccc atgttgtttt ttctgcccaa agtttggaca gtgtgtttgt gttgttgcat  4657
216 ttttttacaaa cgaggtgtgt ttgcaaaccc acctgctttg attatttttg ttacacaggt 4717
217 gggtatatgt gtagacacat aaaaacgacc agagaatagg agcacacacc tgctgtcttg  4777
218 tttagtgaca gaaaaaggct tttgattaat tttaaaatcc cactctagga ttttttcttt  4837
219 tcgagaaacc gcccagttgg aggggctgc ctgaaggacc ggaccatgag tttgccgtga   4897
220 tgcattttct aaatgcaca aaaacatgct aattgtcaaa acaaacagtg ccactccatc   4957
221 tcagtgtcca gccgtcccca gtttaggagg tgaaggaagg gaagaataaa catttcccgt  5017
222 ttgctaactg caacccaggg tgagtcctgc tttcccccga ttttataaaa tttgagcctc  5077
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224 acggattttc tagcgtttga tatccatccc ccttagcggc cagatcagag gggaatttca  5197
225 gactttatta cttctcaatg tcatgtctaa atctacaccc tcatcgcagt gaaaaatttt  5257
226 aaaacctcat tacccttcaa aaataaattta tgatattttt agagttctaa attcaagttt  5317
227 ttcaatatgt taaataatag agattatttt ttgtttttcaa tgttaatatc tcgtcttta   5377
228 catttttaat agtaacatag tttttgtgaa atgtagctga cgaaatggct ttattatcta  5437
229 tttcaatggc tgaagtccac cactcccctg ctggcctcta tgtgtgaatt tggggaccaa  5497
230 agcttcatca attcccaccc cagcaggtga gctgtacctt gctaatgctg aagttctttg  5557
231 tgagcttaac gtttcaagac cagatgattt tgctaaaggt gattttgctt gatgcagtgg  5617
232 cgctgaacgt aacccgggtg tttttgtcgt gttgttttca acatggcact ttatctccac  5677
233 gctatgttga aatagaatta ggggaagctt aaagcataat aattgtcccc acatgtgcaa  5737
234 cacagactct ttcaatctgt ggccccagag gtggcacaca gttaagactt ggcggctgtc  5797
235 tcattctttt tcataatgtg cgggttcccg ggtgtccggg tgctagactt tcagcaggcc  5857
236 ccaggccaga cgggctttgg ttgagtgaac aggaggagga agttaaggag gtaggggtgg  5917
237 ggagagaccc tctccaagct gcagaagaag gtggcccaag ctccttgcct gcgtctgccg  5977
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RAW SEQUENCE LISTING   DATE: 10/10/2001
PATENT APPLICATION: US/09/963,285   TIME: 14:02:24

Input Set : **A:\ES.txt**
Output Set: **N:\CRF3\10102001\I963285.raw**

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238 tgatggtttc attttacttc tgctcgcttc atgctatttg ccccaggaga agaggagagt   6037
239 attccagacg gtaagcgagc tggctttttc ccttccctag acgtttttaaa gaaatctttc   6097
240 tgaaagcttg ccctcatcgt aagctttgaa accgttggtg tcctgttagt ggcgagggct   6157
241 gagagacacg cggagaaata aaggagagcg acggtgtggc tgagagcccc caggtctgct   6217
242 gttgaaacta agctgggctt ttgcaccttt aggaagcctt tttaaagaag tcctgctgtg   6277
243 tgggggccgg aagcccaagt gagtgggcct tgtggaggtt atcgggaggg gtctttacca   6337
244 ctccttgggg aacgtgggca acggggggat tgtatctgaa gctttattca ggtcttcggc   6397
245 ggcagcagag tggagaacca ggcccttagt gtgtagcggc ctgggattt tgggactcat   6457
246 c                                                                    6458
248 <210> SEQ ID NO: 2
249 <211> LENGTH: 501
250 <212> TYPE: PRT
251 <213> ORGANISM: Homo sapiens
253 <400> SEQUENCE: 2
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255 1               5                   10                  15
256 Pro Tyr Leu Ser Glu Gln Asn Tyr Tyr Arg Ala Ala Gly Ser Tyr Gly
257             20                  25                  30
258 Gly Met Ala Ser Pro Met Gly Val Tyr Ser Gly His Pro Glu Gln Tyr
259         35                  40                  45
260 Ser Ala Gly Met Gly Arg Ser Tyr Ala Pro Tyr His His His Gln Pro
261     50                  55                  60
262 Ala Ala Pro Lys Asp Leu Val Lys Pro Pro Tyr Ser Tyr Ile Ala Leu
263 65                  70                  75                  80
264 Ile Thr Met Ala Ile Gln Asn Ala Pro Glu Lys Lys Ile Thr Leu Asn
265                 85                  90                  95
266 Gly Ile Tyr Gln Phe Ile Met Asp Arg Phe Pro Phe Tyr Arg Glu Asn
267             100                 105                 110
268 Lys Gln Gly Trp Gln Asn Ser Ile Arg His Asn Leu Ser Leu Asn Glu
269             115                 120                 125
270 Cys Phe Val Lys Val Pro Arg Asp Asp Lys Lys Pro Gly Lys Gly Ser
271     130                 135                 140
272 Tyr Trp Thr Leu Asp Pro Asp Ser Tyr Asn Met Phe Glu Asn Gly Ser
273 145                 150                 155                 160
274 Phe Leu Arg Arg Arg Arg Arg Phe Lys Lys Lys Asp Val Ser Lys Glu
275                 165                 170                 175
276 Lys Glu Glu Arg Ala His Leu Lys Glu Pro Pro Pro Ala Ala Ser Lys
277             180                 185                 190
278 Gly Ala Pro Ala Thr Pro His Leu Ala Asp Ala Pro Lys Glu Ala Glu
279             195                 200                 205
280 Lys Lys Val Val Ile Lys Ser Glu Ala Ala Ser Pro Ala Leu Pro Val
281     210                 215                 220
282 Ile Thr Lys Val Glu Thr Leu Ser Pro Glu Ser Ala Leu Gln Gly Ser
283 225                 230                 235                 240
284 Pro Arg Ser Ala Ala Ser Thr Pro Ala Gly Ser Pro Asp Gly Ser Leu
285                 245                 250                 255
286 Pro Glu His His Ala Ala Ala Pro Asn Gly Leu Pro Gly Phe Ser Val
287             260                 265                 270
288 Glu Asn Ile Met Thr Leu Arg Thr Ser Pro Pro Gly Gly Glu Leu Ser
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VERIFICATION SUMMARY DATE: 10/10/2001
PATENT APPLICATION: US/09/963,285 TIME: 14:02:25

Input Set : **A:\ES.txt**
Output Set: **N:\CRF3\10102001\I963285.raw**

L:13 M:270 C: Current Application Number differs, Replaced Current Application No
L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:554 M:351 W: Sequence data Name/Key Feature Out-of-Range, SEQ ID#:5, EXON LOCATION:
(1649)...(438)